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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
- (c) to compile a comprehensive list of all Victorian-insect species,
- (d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at the 'Discovery Centre', Lower Ground Floor, Museum Victoria, Carlton Gardens, Melway reference Map 43 K5 at 8 p.m. on the third Tuesday of even months, with the exception of the December meeting which is held on the second Tuesday. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS (2010)

Ordinary Member	\$30 (overseas members \$32)
Country Member	\$26 (Over 100 km from GPO Melbourne)
Student Member	\$18
Electronic (only)	\$20
Associate Member	\$7 (No News Bulletin)
Institution	\$35 (overseas Institutions \$40)

Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

LIFE MEMBERS: P. Carwardine, Dr. R. Field, D. Holmes, Dr. T. New, Dr. K. Walker.

Cover design by Alan Hyman.

Cover photo: *Megaceria* sp. (see page 39)

Photographer John Tiddy, a member of the Victorian Nature Photography Group with an interest in insects, has provided this photo using a white background photography technique. In this case the wasp has its abdomen elevated due to the cold weather when it was found. An article expanding on this method of photography is included in the February 2011 bulletin.

Notice of Annual General Meeting 2011

Please be advised that the Annual General meeting of the Entomological Society of Victoria Inc. will be held on Tuesday 19 April 2011 at 8 PM at the Discovery Centre, Melbourne Museum.

The purpose of the meeting is to receive reports of Council and the election of Office Bearers and Honorary Treasurer, Editor and up to eight other Councillors.

Nominations in writing and signed by the proposer, seconder and nominee, must be in the hands of the (retiring) secretary seven days prior to the Annual General Meeting.

Nomination forms are available from the Secretary, Steve Curle secretary@entsocvic.org

The Annual General Meeting will be immediately followed by a brief General Meeting and the following guest speaker:



Minutes of the General Meeting 15 February 2011

- Present:** Tiziano Barberi, Russell Best, Peter Carwardine, Laurie Cookson, Steve & Viv Curle, Ian & Margaret Endersby, Maik Fiedel, Joshua Grubb, Ken Harris, Marilyn Hewish, Geoff Hogg, Laura Levens, Wendy Moore, Linda Rogan, David Stewart, Geoffrey Weeks
- Guests:** Belinda Christie, Jo Connellan, Joelle Grubb, Dean Hewish, Bert Hovel-ing, Marion Silver, David, Bronwyn, Talia & Alec van Bockel
- Apologies:** P. Lillywhite, D. Dobrosak, K. Walker

Amendments to Constitution:

It was moved I. Endersby (seconded P. Carwardine) that the changes to the constitution proposed in *Victorian Entomologist* 40: 78-79 (2010) be accepted. The motion was passed without dissent.

Correspondence:

The Society for Insect Studies circular no. 149
Bardi Gras Ceremony at Nathalia
Spiders in the Whipstick

Discussion

A discussion ensued from recent reports of abnormally high numbers of spiders in the Whipstick and of clouds of dragonflies being seen. Members were urged to record such irruptions with date time, place, identification and an estimate of numbers, so that their patterns could be analysed systemati-

cally. These sorts of occurrence can be driven by fecundity, food resources, diminution in predation, and enhanced habitat conditions. The dominant cause for any one group will depend on the details of its life history. Council will investigate whether it can host a debate on population ecology so that members might be better informed on how these factors might interact. It will also publish some guidelines on systematic record keeping for noteworthy entomological occurrences.

Treasurer's Report:

The Society's account books are with the Auditor so no report could be prepared.

Membership:

Nominations have been received from:

Steven Law, North Melbourne (Lepidoptera)

Steve Holliday, Ainslie ACT (Lepidoptera, beetles, dragonflies)

James Wilson, Blackwarry Vic (Butterflies, moths, beetles)

Editor's Report:

More articles are required for the April issue; the deadline for contributions is Friday 18 March.

General Business:

Peter Carwardine exhibited the larva of *Utetheisa pulchelloides* (the Heliotrope Moth) and discussed its foodplants from the family Boraginaceae.



This month we were fortunate to have the opportunity to do the Back of House Tour at the museums Live Insect collection. Jessie explained that when the museum was built in 1999, the live exhibition was just a concept.

Jessie and David split the group and toured the various area's with us.

Special thanks were expressed to Jessie and David who kindly hosted this months meeting and for hosting the BOH visit to the live insect collection of the Museum.

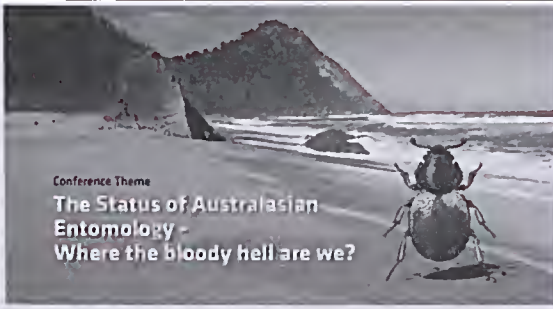


Pictures of the tour by Steve Curle above and on page 26.

Next Meetings:

If you are planning to attend any of these meetings; please refer to the website for any last minute amendments.

2011:			
<i>Month</i>	<i>Date</i>	<i>Planned event</i>	
April:	19th	AGM	Ken Harris: Madagascar
May:	17th	Council meeting	
June:	21st	General meeting	Members Presentations
July:	19th	Council meeting	
August:	16th	Members excursion	TBA
September:	20th	Council meeting	
October:	18th	General meeting	Members presentation
November:	15th	Council meeting	
December:	13th	General meeting	BBQ and moth collecting Please note, December's meeting date is second Tuesday of December to avoid Christmas celebrations



Conference Theme
**The Status of Australasian
Entomology -
Where the bloody hell are we?**

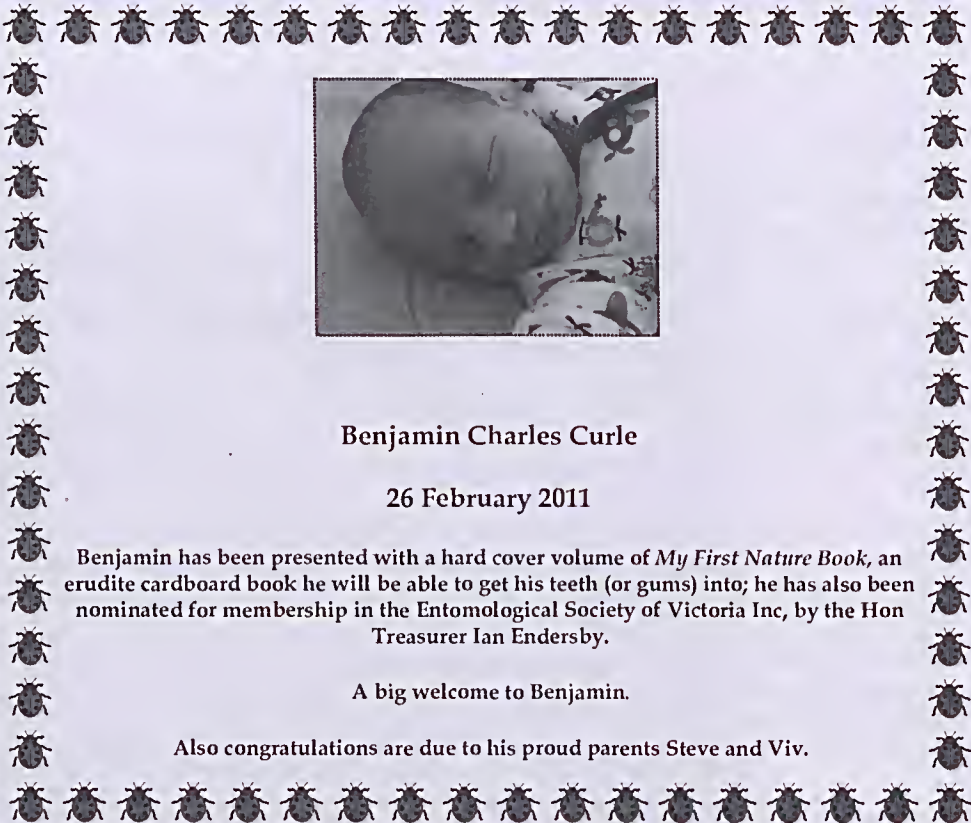


The conference is on!

**The 3rd Combined Australian and New Zealand Entomological Societies Conference
28th August - 1st September 2011, Lincoln University, New Zealand**

Registration

Registration is now open for the 3rd Combined Australian and New Zealand Entomological Societies Conference. For conference details and to register please go to the Entomological Society of New Zealand's website at www.ento.org.nz or go directly to the registration form at <http://ento.org.nz/conference/registration/>



Benjamin Charles Curle

26 February 2011

Benjamin has been presented with a hard cover volume of *My First Nature Book*, an erudite cardboard book he will be able to get his teeth (or gums) into; he has also been nominated for membership in the Entomological Society of Victoria Inc, by the Hon Treasurer Ian Endersby.

A big welcome to Benjamin.

Also congratulations are due to his proud parents Steve and Viv.

Recent observations



Photo by Darren Bird

Summary of *Papilio demoleus* sightings

reported through Victorian Entomologist Editor from November 2010 through March 2011

26/11/2010 **North of Neerim South**
Andrew Green from Latrobe Valley Field Naturalist Club photographed *P. demoleus**

31/12/2010 **Ballarat**
Matt Pywell of Ballarat Wild Plants found eggs on his tube stock of *Cullen microcephala*. To the delight of his children, he raised the caterpillars confirming these were eggs of *P. demoleus*. This is his first sighting of *P. demoleus* since establishing the nursery in 2002. Matt is developing a data base of insect associations with the indigenous plants in his nursery.

08/01/2011 1135h **Eltham Melways 21 H6**
Michael Braby observed an adult flying rapidly west across Susan Street near the intersection with Bridge Street. Although the specimen was not in view for very long there was no mistaking the identity based on its large size and yellowish colouration. "I have recorded butterflies from the Eltham region for the past 30 years (since 1981), but prior to this season I have never observed *P. demoleus* in the area"

16/01/2011 **SW of Ballarat**
Darren Bird photographed *P. demoleus* SW of Ballarat

02/01/2011 **Everard Track south of Kinglake** Linda Rogan

10/02/2011 **Pound Bend Warrandyte** Sharon Mason identified one individual near her home at Pound Bend, Warrandyte.

15/02/2011 **Russell St near Flinders St Melbourne**
Albert and Betty Mason found a butterfly struggling on the footpath in the city on Russell St near Flinders St. To save it from trampling it was taken to Sharon who confirmed *P. demoleus*.

15/02/2011 **Watsons Creek Melways 272 G12**
Frank Pierce spotted an individual *P. demoleus* followed by a second within one half hour. Both were flying east.

*The photo on page 4 of the previous bulletin was incorrectly attributed to Andrew "Brown" when it should have been Andrew Green. *Mea culpa* – L Rogan ed.

Overview of the Butterfly Database: Part 6 – the knowledge gap, identification complexity and measures of record acceptability

Kelvyn L Dunn

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Introduction

The previous part in this series on the database project (Dunn 2011) charted longitudinal collecting trends which were used to confirm, and redefine where needed, the boundaries of the butterfly collecting eras since the middle of the 19th century from the Australian point of view. This sixth part examines the knowledge gap between archival holdings (those collection- and literature-based records that undergirded the atlas maps and charts) and what could be recalled from experienced collectors' memory of their undocumented field encounters. It also explores some issues that can create uncertainty in species' identifications and overviews the categories of record validity that have been used in the database to marginalise dubious information and eliminate errors. These aspects of quality assurance expand upon those covered in Part 3 (Dunn 2010a).

17. Use of vouchers and literature records alone underestimates distributional realities

When butterfly experts evaluate plotted maps and temporal charts they tend to do this by judging how they measure up against their (mostly unpublished) recollections of field encounters with assorted species at various sites. These, rather than museum archives, are the records most familiar to them. Sometimes forgotten though, is the fact that observers usually see far more species per site than will be retained for display in the cabinet or will be documented in their publications (if any). Obviously then there will be a shortfall in the completeness of maps and charts that are based, for the most part, on vouchers and literature records (even if data saturation for these had been reached in the atlas set). The question that arises then in assessing that difference is: 'What is the approximate measure of that shortfall between available knowledge (specimen-backed and published evidence) and the consolidated memory of field workers?'

I attempt to gauge the shortfall by analysing two recent butterfly surveys of mine in parts of northern and southern Australia. The first example involved 13 days in the Darwin-Katherine-Kakadu region (northern Australia) in May-June 2008. During that time 83 sites were surveyed, 716 records were obtained, and 73 species were identified (Dunn & Franklin 2010). Vouchers supported 140 (20%) of those records, covered 28 (34%) of those sites and represented 47 (64%) of those species. Only 16 records (2.2%) were published out of interest or as new information. A second (unpublished) event involved a 12-day roadside survey in southern Australia in October 2007, which spanned from central Victoria to the Eyre Peninsula of South Australia. On that trip 160 sites were surveyed, 317 records were obtained and 29 species were identified. Vouchers supported 40 (13%) of those records, covered 16 (10%) of those sites and represented 15 (52%) of those species. Three records were deemed of consequence and subsequently published (0.9%). The averaged takings, when both trips were weighted equally, indicate that vouchers represented only 17% of the field encounters. This means that if observations had not been diligently documented in the field – at that time of encounter – then 83% of the total records for the two trips would have been disregarded. The average percentage published (1.6%) could then increase the averaged takings (at 17%) to about 19% stored as archival knowledge (proportionally still small though – less than a fifth). This addition, however, creeps on the side of caution in order to maximise the archival content, rather than the supposed loss, by assumption that literature-based records are not specimen-backed

(but many can be). The overall supposition for my own records, of course, is that without the database as a repository for complete information, it is likely then that field observations jotted in notebooks would be lost over time (as has been the case for most collectors' inventories over the last 15 decades). Indeed, many collectors do not even keep a log of their field activities and those species seen.

These two contrasting sampling events as averaged, estimate that gap among my own records as a starting point. And, largely, my collecting (which I believe these two trips were typical of) has shown broad similarity to that of other workers whose efforts comprise the remainder of the database (Dunn 2010b). On this basis, but not without limitations in doing so, generalisation from such reckoning provides a rough estimate (and a useful one in absence of any other) of the overall gap in knowledge. Perhaps then, about an 81% shortfall (given that less than a fifth of field encounters has probably been archived) is a crude but likely measure of the incompleteness in museum butterfly holdings, and by corollary, an estimate of that under-representation that collectors had queried in the species' maps of 1991. That shortfall in recorded knowledge obviously becomes substantial across the 150 years or so of collecting history, and even more so for the database as it is a sample of museum collections (at about 51%), not a census of the whole. This large gap unequivocally shows that field-observations are a vital component of distributional knowledge, as earlier suggested (Dunn & Dunn 2006). And, as argued some 20 years ago, an increased portion of observations (whether in literature or, as in the case of most, as unpublished contributions) will help bridge that knowledge gap and so "keep the database up-to-date regarding known species' distributions" (Dunn & Dunn 1990: 38). The sway towards observations (unhandled records) has noticeably begun now; the proportion of vouchers (specimens) and published records has declined from about 96% of the total holdings in 1991 to 86% at the time of writing (total holdings: n=146,543 records). Obviously thousands of observations have been added to achieve that moderate change, but tens of thousands would be required to offset that current imbalance. Otherwise, maps based on vouchers and literature as the bulk of the content (86%) may continue to beg the question of a supposed untapped knowledge gap – the undocumented component retained in memory. That assumption (true or otherwise) of a much broader spatiality is based on what is accurately or inaccurately recalled from collectors' experiential knowledge. Essentially this constitutes the collective consciousness of circa 81% of encounters that have been disregarded over time as uninteresting. Casual comments in anecdotal literature, such as the following historic one concerning *Nacaduba biocellata*, support this belief. Le Souëf (1971: 4), a well known collector of insects and one who was partial to advancing distributional knowledge, remarked, "As is the case in so many parts of Australia, they were to be seen in hundreds in many places". Hence, no sites for that widespread butterfly were listed in his account of his survey in Western Australia, and the data holdings of his collection indicate that no vouchers of that species were retained from that visit in spring 1967.

The knowledge deficit, as defined above, would affect those common species that are presently recorded from relatively few sites within their vast ranges. The many 'lost' observations on these, had they been documented and made available, would have improved the density of mapping for many common species but would have unlikely expanded upon their range limits (given the wide areas presupposed as occupied). On current evidence then "it is likely that national synoptic maps of species' distributions represent the ranges of most species reasonably accurately..." (Dunn & Franklin 2010: 88). In contrast, the known ranges of rarer species are more likely to be under representative, particularly in areas that are less often surveyed. Many of these less abundant species will be overlooked without determined searching, without knowledge of their larval hosts, and without honing in on characteristic behaviours that make them so elusive. Supportively, Dunn and Franklin (2010: 93) remarked that there is still "the tantalising possibility that the geographic range of rare taxa in ... [parts of northern Australia] may be larger, perhaps even considerably so, than is currently understood, particularly so for cryptic species."

The conservation era has ushered in a more balanced reporting from the field (Dunn 2011), one that Victorian Entomologist 41(2) April 2011

may help bridge the knowledge gap. Yet, it was against a background of scepticism that observations were even included in the atlas project from its beginning. This largely linked to legitimate concerns over lowered project rigour as records of that format cannot be verified or re-examined (Dunn 2008). Dunn and Kitching (1994: 9) defended that field-observations by experts provide for “a high level of confidence, short of capture and subsequent examination”. And, at that level of mastery, Franklin *et al.* (2005) and Canzano *et al.* (2007) affirmed that such as these would harness quality information. In times past, expertise was universally gained by making a synoptic collection, but today, in the face of growing public distaste (Orr & Kitching 2010), photography can assist the learning process, and is adequate for most groups of butterflies. This then limits live handling or preservation of vouchers to those select groups of very similar species that are otherwise difficult to identify. Indeed, the digital camera with its facility to economically produce quantities of photographs – images that can be viewed instantly to check for clarity and suitability – can now fortify field-observations and so raise standards of veracity for these, as the stand-alone evidence (Dunn 2010a). This reintroduces too that sporting challenge for the eco-friendly hunter, as not all butterflies will brazenly pose for a contrasting image!

18. Identification complexity – provision of truth within a spectrum of uncertainty

A guiding premise of the project is that most (if not all) identifications even those believed to be accurate may include a measure of uncertainty. In dealing with this, the contributors’ names (as codes) and the identifier’s name (as code) which may or may not be the same individuals, and the year of last identification (or revision of an earlier one) each becomes informative about the record concerned. Importantly, the year of identification guides as to whether period assertions need re-examination in light of subsequent changes in taxonomy. As contributors’ skills in identifications may vary unevenly across genera and families of Australian butterflies, and too, their conscientiousness and exactitude in their provision of provenance data, these supports as part of each butterfly record (Dunn 2010a) help affirm the information quality to users (Dunn 2008). That said, the provision of thousands of records by observers and collectors over many years has meant that the proportion I have identified personally (albeit much of the content back in the middle 1980s), has now declined to about half (50.9%) of the current holdings. The remaining 49.1% has been identified by many of the more than 1,300 contributors who now have one or more records included in the database. This admixture brings its own complicatedness as a large number of identifiers (some of unknown skills) acts against internal consistency (Dunn 2010a), bringing with it added potential for error. A system of observer accreditation would enhance the project’s rigour by formalising contributors’ expertise based on their field experience, identification skills and knowledge of regional faunal suites where they regularly practise. However, quantifying this would bring forth much controversy since expertise is not static but remains in flux. Essentially it is dependent on recency of practice, enhanced by that practise and declines without it. (There is no tool to measure this quantitatively, but expert opinions or self-assessments could provide a yardstick for this.)

Formal accreditation for would-be data suppliers to on-line repositories may bolster records’ believability, but for observations, their accuracy also floats on “...differences in individual observer acuity” (Canzano *et al.* 2007: 239) – this is *additional* to one’s accumulated field experience, scholarly knowledge, or propensity towards exactitude per se. Observer acuity then, as an artful skill can be eroded by circumstantial and contextual factors in the field that may affect both the expert and the novice alike. Varied weather and light intensity (weakening visual perception), fleeting appearances and rapid wing movements of small butterflies (increasing time needed for recognition and blurring sought-out characters, respectively), faunal expectations (eliminating from a suite of supposed inhabitant species) and observer fatigue (impairing cognitive processes) are just some of the complications. Whether acting in combination or individually, these and other unpredictable factors may cause the best of enthusiasts to err in their identifications or even lead to mistaken perceptions at times. Essentially the visual process is an intelligent but fallible recognition tool (Dunn & Dunn 2006), one on which the strength of observations rest.

The identification of field encounters or specimens in museums, hinges on not just those characteristics recognised and the weight accorded to these based on one's experiential learning and academic knowledge, but can be encased within a framework of expectations of what is likely. Hunt *et al.* (1998) provided an insightful anecdote of their experience of perceptual illusion in the field, in this case, seemingly linked to underlying assumptions as to the faunal suite. In a briefing on the *Ogyris idmo* complex these workers reported having "observed about twenty butterflies...and collected three males..." - normally more than enough sightings to enable an accurate visual assessment. Despite these odds, they noted that their wings had "seemed much bluer" at first, a perception lending (inferentially) towards a differential identification at species level. Upon capture they later reflected though, "They were not dark blue as originally thought but were a purple, suffused with a bronze coloration." (p.113). Among flighty species not readily chanced upon at close range (as in this elusive group), mistaken perceptions can occur when characters are seen unclearly and the mind, instead, attempts to 'fill the gaps' (or even subconsciously adjust the evidence) to make sense of an observation, temporally and/or spatially. These authors' honest reflections here, on what is ordinarily a rare event, valuably remind us that handling a specimen is helpful (or even essential) for trustworthiness within groups of similar species.

Historically revered as a 'gold standard' in lepidopterists' writings of old, vouchers are not beyond reproach either. Even where specimens are available across generations of workers, errors in identification do occur albeit these can be corrected by re-examinations. Another example from the *O. idmo* group highlights this and, as with other extracts discussed previously, its usage here is not as disparagement but to raise awareness of that imperfection in science. That said, Field (1999) described *O. subterrestris* from within the *idmo* complex but his placement of one historic female with this new species raised intrigue on ecological grounds. Most, if not all, populations Field (1999) had assigned to *O. idmo* (then including *O. halmaturia*) inhabited areas with whitish-yellow sandy soils, whereas those of *O. subterrestris* (except one, it seemed) aligned with similar habitat on pinkish sandy soils. (This included too, my experience of allied populations of each species in WA). If these ecological aspects were more than an artefact of chance, the population near Ceduna SA would likely belong with *idmo* (as then understood) on that reasoning. Later, Braby and Douglas (2008) carefully examined the two extant females in the South Australian Museum and reassigned them, based on character traits, to *idmo* (*sens. lat.*) (now *O. halmaturia*). In doing so, this aligned their ecological circumstances but without apparent intention for this.

The two examples chosen reveal part of the spectrum of uncertainty that can surround identifications and weaken the ability of outputs (atlas maps & charts) to measure what they are intended to measure. They also show that underlying frameworks and unrealised assumptions can influence decision-making for better or worse. Essentially, quality control of content remains strived for (Dunn 2010a) but compromised by the use of mixed data sources (observations, photographs, released material and specimen-vouchers) and a mixture of many providers and identifiers of records, which jointly add to the project's limitations (Dunn & Dunn 2006). Accepting this as reality, the question that arose early in the project history was thus: 'How were records, particularly observations contributed by multiple workers of varied expertise, to be ranked to ensure reliability of knowledge outputs?'

19. Contributions: A spectrum of acceptability categorised to six levels

The accuracy of species' identifications and the completeness of the label data under-gird the project and a careful inspection of these is needed to ensure that quality information is compiled (Dunn 2010a). Across the many contributions, inaccuracies in one or more components can unanchor the reliability of the maps and temporal charts (Dunn 2010a) and, if severe, the database itself. The plethora of circumstances pertaining to each record means that forcing a dyadic choice (namely, 'correct' or 'incorrect') can be a thorny issue, and so fractioning that correctness provides for a suitable compromise in assessing acceptability. In grading this imperfection then, six levels of acceptance have

helped qualify the veracity of species' identifications and label information across tens of thousands of records. The three tiers of correctness (C), one of unnaturalness (H), and two of incorrectness (D & E) are defined below, as a guide for others implementing bio-taxonomic database systems.

Category 1 (C1) – Where veracity is '*beyond reasonable doubt*'

Most records in the database are accorded the highest level of veracity as a default placement. This decision hinges on a literal rendition of the label information and an assumption that this is what was intended, a belief in the accurate assertion of the species and faith in the identifier's ability to provide such. At this default level of trust then, all records have presupposed '*correctness*' to a level of confidence that is *beyond reasonable doubt*. **Identifications:** The assumption is that enough characters were seen in the field, evident in a photograph, or noted on a preserved specimen to provide that standard of identification, without serious ambiguity at the species level. This criterion means that all other similar species in that broader region have been eliminated based on recognised taxonomic characters. However, as species' definitions themselves may be imperfect and subject to revision as new information presents, the quality of some records may decay over time. Consequently some records may lower in their level of acceptance. These five lower levels (C2, C3, D, E, & H) are explained below. **Labels:** The assumption here is that contributors have provided accurate information and that they have done so without intent to deceive by vagueness or falsification. A record's basic components involve the locality, date, rearing information, and contributor. One or more statements on labels may be absent, or where present, may be variably incomplete, abbreviated or truncated. In these instances they may require scholarly interpretation enlightened by knowledge of collectors' movements, changes in landscape nomenclature and linked historic information. Once label information is clarified and in absence of conflicting information or irreparable ambiguity, the record is accepted as authentic. The majority of records in the database (99.8%) rank here.

Category 2 (C2) – Where veracity is '*almost certain*'

Identifications: Records assigned to this second tier are often those that have utilised biological or field data to support their validity. Features such as behaviour, habitat preference, and known spatial or temporal distribution may be usefully applied where sufficient taxonomic characters were not seen in the field or where these were unclear in a submitted photograph. Occasionally too, some damaged specimens may be ambiguous, and for these, the use of additional information, where available, can sometimes eliminate other similar species in that broader region from where the record was made. Records in this category are believed to be '*correct on the balance of probabilities*' – meaning that they are '*almost certain*'. This marker of a lesser exactness enables exclusion, if required, and alerts perusers as to their defined accuracy. However, any Category 2 records that fall outside species' known spatial and temporal ranges automatically default to doubtful status (see Category 4). **Labels:** There may be issues of legibility and/or ambiguity with locality information creative of a small but appreciable measure of uncertainty. (Where expert opinion is added in parentheses to clarify a locality or is placed in the 'Comments' field to explain other label information, these adjusted records return to Category 1). The 290 records currently in this second tier (C2) comprise 0.2% of the whole and so raise few concerns.

Category 3 (C3) – Where veracity is '*most probable*'

Identifications: This third tier of accuracy was invoked in the late 1990s. At this time a few higher level records were forcibly downgraded below '*almost certain*' to that of '*most probable*' for reasons of longitudinal decay. Many were casualties of taxonomic revisions that had raised sibling species whose overlapping distributions had created ambiguity among earlier identifications (Dunn 2008). Where historic identifications have been compromised, these records now remain in limbo awaiting re-examination (if still possible). Those effected have been judged *on the balance of probabilities* as '*most probably*' the species asserted (Dunn 2010a). If a temporal or spatial edge creep (beyond boundaries supported by the highest level data) becomes evident they are ultimately separated out

(as doubtful) to maintain the database's reliability as that measuring tool it is intended to be. The number of 'C3' records in the database is few. The 16 examples in the present holdings comprise a negligible 0.01% of the whole.

Category 4 (D) – Where a record is doubtful

Identifications & labels: Records that waver beyond the concept of the tripartite 'correctness' model (categorised above) are marked 'doubtful'. The database makers (or confidants whose advice has been sought) have judged these records as unlikely *on the balance of probabilities*. For some, published commentary by historic examiners had earlier placed them under scrutiny and so their purported lack of confirmation, if still the case, is upheld. Yet this does not mean that they are mistaken, as rare events can and do happen (see Note 8 in Dunn & Dunn (2006) for discussions, reinforced by citations of over 20 authors' examples). There can be other explanations too (see Category 6) but their placement here in Category 4 then, edges on the side of caution and healthy scepticism (Dunn 2010a). Doubtful records may be restored if supportive evidence for their authenticity surfaces (Dunn & Dunn 2006).

Category 5 (E) – Where a record seems erroneous

Identifications & labels: Allocated here are those record-tragedies that fall on the continuum from very doubtful to almost certainly wrong. Their likelihood of error seems *beyond reasonable doubt* based on the wealth of evidence available to the database makers (Dunn 2010a). At times earlier experts have asserted that particular records are mistaken (usually based on a lack of confirmation after many decades rather than unhealthy scepticism) and in doing so, have offered plausible explanations as to how such errors could have arisen. To this end, Waterhouse (1937a: 108) had grieved that locality descriptions attached to valuable colonial specimens that had passed through dealers were "usually inadequate and in many cases erroneous". In consultation with another specialist he determined, for example, that "most of Hewitson's records of Port Denison are wrong" (Waterhouse 1937a: 116), one of which he described as an "impossible locality" (p.114). It also dismayed him that Frühstorfer, an overseas taxonomist with whom he had exchanged material, had inappropriately added a secondary label, "Sydney" (presumably to indicate the port of origin), to clarify his (Waterhouse's) otherwise unambiguous locality of Mackay, Queensland, the site where the material was actually collected (Waterhouse 1937b: 103). In this and similar ways serious errors have arisen where original labels (if and where provided) were substituted with a port of origin, perhaps thought as more useful by recipients who were far removed from the region geographically. The project has usually upheld historic rulings or commented upon these as the case necessitated (Dunn & Dunn 2006). Some cases are so bizarre that they remain baffling and are remarked upon time and again for that very reason. Waterhouse (1938: 218) wrote of one astonishing example after seeking an explanation for it among the literature, "*It is hard to understand how the impossible locality ... given by Frühstorfer came about...*"

Allocation of dubious records to these two categories of inaccuracy maintains the veracity of records (Dunn & Dunn 1991, Dunn 2008) and ensures reliability of the database as a whole to safeguard and advance knowledge (Dunn 2010a). What this means is that those records that are almost certainly wrong (E – erroneous) on current evidence, or are likely wrong (D – doubtful) on a commonsense reckoning are excluded from query engine outputs (record counts, maps, graphs and charts) and any data supplies to third parties (Dunn 2008). Query algorithms, which eliminate records with the code 'D' or 'E' in the 'Validity' field, achieve this separation. However, passing commentary in the species' accounts in the atlas set (see Dunn & Dunn 1991) served flexibly in dealing with anomalies, otherwise silence may have inferred those records had been overlooked. To this project end, Dunn and Dunn (2006: 816) clarified that the "*established policies of exclusion of questionable data [has] maintained internal validity, record reliability and uninjured errors of commission.*"

Category 6 (H) – Where a record is authentic but provides unnatural distribution

Identifications: In the last ten years another category has added to the unusual. Some authentic but bizarre distribution records have appeared in various journals or turned up in museums and private collections over recent decades. Many of these are now classified as 'human-assisted' (H) based on an explanation of unnaturalness. These hard-to-explain happenings comprise extraordinary records or alien encounters that seem unrepeatably yet have been purported as truthful by those experienced workers who attested to them. Escapes from butterfly houses, event-based public releases of out-of-area adults, as well as juvenile stages transported as part of the nursery trade (and where naturalisation has not followed) are familiar examples (Dunn 1998, Dunn & Dunn 1991 & 2006, Faithfull 2010). The decision as to whether an odd encounter is of natural origin or attributable to human intervention of some form can be a difficult one (Faithfull 2010). However, intervention is a less offensive option in ranking those questionable (and possibly mistaken) records that contributors' swear are actually truthful! The current policy on these singletons and curiosities, like doubtful and erroneous records, is for their tentative exclusion from maps and charts and, at times, data supply to third parties as they usually distort generalised information. They are interesting when mentioned in passing though, could be repeatable if causatives remain in operation (Faithfull 2010), and may result in colonisation; the surprising case of an Australian skipper now in Singapore and Malaysia (Dunn 2000 *cf.* Khew 2010) is just one example, albeit overseas in this case. Following the approach of Common and Waterhouse (1981), Dunn and Dunn (1991) had plotted some authentic but unnatural range extensions then or later supposed to have been human-assisted in some way. More recently, Braby (2000) dwelt with these by commentary only, and this approach is recommended now - it gives the benefit of the doubt and does not distort the compiled information.

These six guidelines for acceptability have enabled the categorisation of the records in the database project to date. In making these assessments, the measure of field experience one has will assist greatly, as will an historical knowledge of the collecting, labelling or other circumstances of museum records or collections. Adding to these components, one's conflicting project interests can have subjective consequences too. Hence, one or more factors can come into play in this decision-making arena (Dunn & Dunn 2006) and for that reason, differing opinions on the severity of record vetting will continue to exist and may be a source of disputation. Nonetheless, the use of these guidelines has led to the improved integrity of the whole.

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To the Editors

To the Editors

Michael Braby has contacted me and we have exchanged several emails.

I had records of Saltbush Blue, *Theclionesthes serpentata*, at the same site in Karumba in both my 2008 and 2010 articles.

Michael suspected an error, has checked my photos and has established that both of these records should be for Samphire Blue, *T. sulphitius*. These are still 'Out-of Range' records.

To quote Michael:-

"Your pics of the other lycaenid certainly look like *T. sulphitius*, wouldn't hurt to write a corrigenda given that it is such a significant record."

I submit the Corrigenda as follows.

Regards,

Frank Pierce

Corrigenda

VE 40(6) Pierce, F Some More Extension Records for Various Butterflies Throughout Australia

p. 133 5 for	Saltbush Blue+	Karumba	1-07-08	17 28 140 50 500NW
Substitute	Samphire Blue+	Karumba	1-07-08	17 28 140 50 400W

VE 38(1) Pierce, F Range Extension Records for Various Butterflies Throughout Australia

p. 16 for	Saltbush Blue	Karumba	19-06-06	17 28s 140 50e 400NorNW
Substitute	Samphire Blue	Karumba	19-06-06	17 28s 140 50e 400W



Blue, Samphire Karumba
19-06-06 Photo by Frank Pierce

To the Editors continued

Greetings Eds.

cover photo is not *Netelia producta*.

Netelia has a small, almost triangular areolet in the forewing and vein Rs is strongly curved immediately before joining the areolet (in photo it is only slightly curved or straight); the female has a strongly protruding ovipositor and the propodeum, has at most lateral carinae (extensively and strongly carinate in photo).

The wasp is presumably uniformly yellowish-brown or orange - a superficial similarity to *Netelia*. It has the so-called "ophionoid faecies" (large eyes and ocelli, long appendages, etc.) characteristic of *Netelia* (Tryphoninae), the Ophioninae, some Ctenopelmatinae and maybe a few other Australian groups or spp.. Ophionoid faecies species also have this orange colour and are more or less nocturnal.

It is not one of the Ophioninae since these lack an areolet (no 2-rm vein), have a 'spurious vein' extending from the distal end of vein 1A in the forewing to the tornus.

Ophioninae are often confused with *Netelia*.

I think the insect may be a *Megaceria* sp., possibly *M. pagana* (Ctenopelmatinae), which I have caught around Melbourne during the colder months. This subfamily has vein 3-rm in the forewing delineating a rhombic areolet. Species of *Megaceria* have a markedly or strongly carinate propodeum and a big rhombic areolet, and the straight Rs vein, as is visible in the photo. *M. pagana* is winter active, while *Netelia* adults occur in the warmer months.

This info is based on I.D. Gauld's 'An Introduction to the Ichneumonidae of Australia', British Museum (Natural History), 1984. I once maintained a colony of an undescribed *Netelia* sp. in the Dept. Ag. labs. at Burnley.

cheers

Ian Faithfull

Dear Linda - I thought members might be interested in the following. Has it been unusual in Melbourne or Gippsland too, do you know? All the best - Tony Morton

We've had an interesting time up here around Castlemaine this year. February brought both *Papilio demoleus* and *Euploea core corinna*, both rather worn, to the Buddleia here in Vaughan. The latter is a very unusual visitor. So, I think, is *P. aegens*, which laid eggs on lemon and grapefruit bushes in a garden nearby. The adults have now emerged. I had not seen either of these two species up here before (that is, since 2000). Many *Danaus petilia* have been seen this year, too, and there was a large colony of *Jahnenus evagoras* on Cootamundra wattles in Castlemaine. This is not down as a foodplant for the species, I believe. *Paralucia pyrodiscus* was quite common in Jan/Feb, and there are still dozens of female *merope* about. Some say that a unusual distribution of insects like this has not been seen since 1974.

Unusual colour form of *Pieris rapae*?

Notes and photographs
by Linda Rogan

20/10/2010 Browns Reserve Greensborough

This presumed *Pieris rapae* caught my eye it appeared to be totally lacking in black markings. Examination of the photos shows very pale greying on the shoulders and tip of the forewing, and a single minute grey spot on the upper forewing. I have not spotted another individual with such pale markings since so suspect it was a sport.



THE ENTOMOLOGICAL SOCIETY OF VICTORIA INC.
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE YEAR ENDED 31 DECEMBER 2010

GENERAL ACCOUNT

INCOME	Subscriptions			
	Member	2010	2,362	
		2011	827	3,189
	Institution	2010	257	
		2011	91	348
	Donations			16
	Interest			498
	Other			20
				4,071

EXPENDITURE

	Journal Costs			
	Printing		2,457	
	Postage		628	3,085
	Lecture Room Hire			0
	Corporate Affairs Fees			41
	Aust Ent Soc Sub			58
	Postage and Stationery			23
	Speaker's Gifts			17
	CBA Merchant Fee			20
				3,244
	SURPLUS/(DEFICIT) FOR YEAR			827
	Add Balance brought forward from 2009			(1,961)
	Balance carried forward to 2011			(1,134)

LE SOUËF MEMORIAL FUND

INTEREST INCOME

	Commonwealth Bank Fixed Deposit			156
	Less			
	Award Expenditure			0
	Science Talent Search			70
				70
	SURPLUS/(DEFICIT) FOR YEAR			86
	Add balance brought forward from 2009			3,088
	Balance carried forward to 2011			3,174

PUBLISHING ACCOUNT

INCOME

Book Sales

(Moths of Victoria Part 1) 994

(Moths of Victoria Part 2) 1,305

(Collecting & Sampling Insects) 342

Postage 131

Donations 252 3,024

EXPENDITURE

Printing Costs

(Collecting & Sampling Insects) 120

Postage 157

Credit Card Fees 145 422

SURPLUS/(DEFICIT) FOR YEAR 2,602

Add balance brought forward from 2009 10,482

Balance carried forward to 2011 13,084

STATEMENT OF ASSETS AT 31 DECEMBER 2010

GENERAL ACCOUNT

Bank Account (1,134)

Term Deposit 7,600

6,466

LE SOUËF MEMORIAL FUND

Bank Account 3,174

Commonwealth Bank Fixed Deposit 2,400

5,574

PUBLISHING ACCOUNT

Bank Account 13,084

Value of Inventory 3,648

16,732

Auditors Report:

The Secretary

Entomological Society of Victoria

Dear Sir,

I report that I have examined the accounts of the Entomological Society of Victoria for the calendar year 2010, comprising the Statement of Receipts and Expenditure for the General Account, the Le Souef Memorial Fund and the Publishing Account; and the Statement of Assets as at 31 December 2010.

The audit procedure examined the account books and records of the Society, including bank statements, deposit books, cheque books, receipts, invoices and other material.

In my opinion the accounts are properly drawn up and accurately record the financial transactions of the Society. Further, the financial records of the Society are in accordance with applicable accounting standards.

Yours faithfully

S.J.Cowling

17 March 2011



**Members submissions are invited for the Victorian Entomologist
June news bulletin.**

Deadline May 20th 2011

In addition to scientific articles, consider sharing:

- Recent observations with photos if appropriate
- Short articles
- Views on current entomological issues
- Student projects
- Other items which will be of general interest to other society members

We plan for a full colour edition later in the year and the council are looking into the relative costs of switching to colour printing on an ongoing basis in future years. Please let us know if you would like to see such a change.

Australian Journal of Entomology Volume 50, Issue 1 (7 February 2011)

The Australian Entomological Society publishes the *Australian Journal of Entomology* quarterly. The Entomological Society of Victoria is an affiliated society and publishes the contents of the Journal for the wider interests of its members.

OVERVIEW

Michael Thompson, Arlita Lyons, Lalith Kumarasinghe, Darren R Peck, Gary Kong, Steve Shattuck & John La Salle: Remote microscopy: a success story in Australian and New Zealand plant biosecurity.

ECOLOGY

Chee-Seng Chong, Linda J Thomson & Ary A Hoffmann: High diversity of ants in Australian vineyards.

Aston L Arthur, Andrew R Weeks, Matthew P Hill & Ary A Hoffmann: The distribution, abundance and life cycle of the pest mites *Balaustium medicagoense* (Prostigmata: Erythraeidae) and *Bryobia* spp. (Prostigmata: Tetranychidae) in Australia:

Angelos Tsitsilas, Ary A Hoffmann, Andrew R Weeks & Paul A Umina:

Impact of groundcover manipulations within windbreaks on mite pests and their natural enemies.

Michelle A Bassett, John B Baumgartner, Monique L Hallett, Yasmin Hassan & Matthew R E Symonds: Effects of humidity on the response of the bark beetle *Ips grandicollis* (Eichhoff) (Coleoptera: Curculionidae: Scolytinae) to synthetic aggregation pheromone.

Kerinne J Harvey, David R Britton & Todd E Minchinton: Mortality of a herbivorous insect is greater on non-indigenous congeneric compared to native rush in coastal salt marsh.

SYSTEMATICS

Bruce Halliday: Occurrence of the predatory mite *Haemogamasus pontiger* (Berlese) (Acari: Laelapidae) in Australia, with a review of its biology.

Netta Dorchin & Robin J Adair: Two new *Dasineura* species (Diptera: Cecidomyiidae) from coastal tea tree, *Leptospermum laevigatum* (Myrtaceae) in Australia.

Matthew J Colloff & Andi Cairns: A novel association between oribatid mites and leafy liverworts (Marchantiophyta: Jungermanniidae), with a description of a new species of *Birobates* Balogh, 1970 (Acari: Oribatida: Oripodidae).

Edward D Edwards & Ken Green: Two new species of *Oxycanus* Walker (Lepidoptera: Hepialidae) from Kosciuszko National Park, one with a sub-brachypterous female.

Catherine W Gitau, Murray J Fletcher, Andrew Mitchell, Charles F Dewhurst & Geoff M Gurr: Review of the planthopper genus *Zophiium* Fennah (Hemiptera: Fulgoromorpha: Lophopidae) with first description of the male of *Zophiium pupillata* Stål.

PEST MANAGEMENT

Grant A Herron & Lewis J Wilson: Neonicotinoid resistance in *Aphis gossypii* Glover (Aphididae: Hemiptera) from Australian cotton.

Marilyn Y Steiner, Lorraine J Spohr & Stephen Goodwin: Impact of two formulations of the acaricide bifenazate on the spider mite predator *Phytoseiulus persimilis* Athias-Henriot (Acari: Phytoseiidae).

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CONTRIBUTIONS TO THE VICTORIAN ENTOMOLOGIST

The Society welcomes contributions of articles, papers or notes pertaining to any aspect of entomology for publication in this Bulletin. Contributions are not restricted to members but are invited from all who have an interest. Material submitted should be responsible and original. The Editor reserves the right to have articles refereed. Statements and opinions expressed are the responsibility of the respective authors and do not necessarily reflect the policies of the Society.

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Contributions may be typed on A4 paper or sent to the Hon. editor in *Microsoft Word for Windows* with an enclosed hard copy. The main text of the news bulletin is prepared in 8 point, *Book Antiqua* font (please do not use fixed point paragraph spacing). Contributions may *preferably* be E-mailed to Internet address: editor@entsocvic.org.au

The deadline for each issue is the third Friday of each odd month.

The Society's Home Page on the World Wide Web is located at:
www.entsocvic.org.au

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The charge for advertising is \$5.00 per half page.

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DIARY OF COMING EVENTS

Tuesday April 19th Annual General Meeting

Ken Harris: Madagascar insects and more

Tuesday May 17th

Council Meeting

Tuesday June 21st Members Presentations

Scientific names contained in this document are *not* intended for permanent scientific record, and are not published for the purposes of nomenclature within the meaning of the *International Code of Zoological Nomenclature*, Article 8(b). Contributions may be refereed, and authors alone are responsible for the views expressed.